

Full Length Research Paper

# Knowledge, Attitude and Practice (KAP) of Hand washing among Mothers of Under Five Children in Gotu Kebele Wondogenet Woreda Oromia Ethiopia

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***Abstract***

**Introduction:** Effective hand washing is an important way of preventing the transmission of microbes from one person to another. However, the rates of hand washing with soap at critical times remain low throughout the world, even when both soap and water are available.

**Aim:** The aim of this study was to assess the knowledge, attitude and practice of hand washing among mothers who have under five children and to identify factor that affecting hand washing practice of mothers of under 5 children at critical times.

**Materials and methods:** A community based cross-sectional study which employs interviewer-administered Amharic language structured questionnaire was conducted. A systematic sampling technique was applied to get the sampled 264 mothers of under five children. Data was collected by pre-tested questionnaire. Data Analysis was done manually by using Microsoft excel 2010 spreadsheets and Epi Info Version 7 after checking for completeness and coding. Odds ratio was done to determine the association between independent variables and outcome variable at 95% confidence interval.

**Results:** A total of 251 mothers participated in the study. With mean age was 26.48 ( $\pm 4.51$  SD) years. The majority of the respondents were Protestant 133 (53%), Muslim 98 (39%), and Orthodox 14(5.6%) religion followers. One hundred twenty-one (48.2%) of mothers have no formal education and 234 (93.2%) were housewives. Two hundred seven (89.6%) mothers wash their hands and 132(52.6%) have a positive attitude with a mean value 37.82 ( $\pm 1.15$  SD). From mothers who were being feed their child only 13(8.5%) wash their hand with water and soap before breast feeding their child.

**Conclusion and recommendation:** The women had moderate knowledge of hand washing practice during critical time. However, hand washing attitude and practice during critical time especially during child feed is low. Hand washing during critical promotion program by health care workers, particularly focused on behavioral factors should be implemented. The health extension workers should enable each house hold to have hand washing facility with soap at the convenient place.

**Key words:-** Hand washing, KAPs, Critical time, Positive attitude and Negative attitude.

**Introduction**

Infectious diseases affect the world unequally; globally diarrhea is the third largest cause of morbidity and the sixth largest cause of mortality among population of all ages where ARI kills 4.25 million people worldwide every year [1]. In developing countries approximately 2 million people, the vast majority of whom are under-five children, die from diarrhea each year [2]. The other greatest problem for developing countries is ARI which occurs more frequently than any other acute illness, including diarrhea and other tropical diseases [3]. However, the two biggest killers of children, the diarrheal diseases and the ARIs remain relatively neglected by a public health fraternity engaged in combating HIV/AIDS, malaria and TB [4]. Morbidity-Mortality-and Treatment (MMT) surveys

conducted in Ethiopia at various times have revealed five diarrheal episodes per child per year, and the two-week incidence to be 16% [5] and prevalence of diarrhea in under-five children is approximately 24%[2].Regular HWWS is thus an excellent way of preventing the transmission of microbes from one person to another. For example, Interventions which promote HWWS were associated with a decreased risk of diarrhea disease by nearly half (47%) [6], and respiratory infections by 23% [4]. Factors affecting hand washing behavior include how habitual the practice is, environmental constraints such as lack of water and access to hand washing facilities [7]. Other barriers to hand washing include prioritization of soap use for laundry over hand washing and enabling factors included having a convenient hand washing station [8].

Although many researches' identified the fact that hand hygiene is most important method in preventing the spread of infection, the attitude that mothers have as they do not view themselves as contaminator of their children, and the fact that young children cannot wash their hands and mothers and care givers are the usual targets of behavior change campaigns they do not show the relationship between mothers hand hygiene and knowledge and attitude.

In addition to these it is well documented in many studies that the rate of hand washing with soap at critical times remain low throughout the world, even both soap and water are available [1]. Due to the fact that enough studies on this issue were not done in Ethiopia, especially in Oromia region and the observed low hand washing habitual practice and environmental constraints in the Wendogenet Woreda we become interested to perform a research on this title with the aim of assessing the knowledge, attitude and practice of hand washing among mothers of under five children and identifying factors affecting hand washing practice of mothers of under five children.

## METHOD AND MATERIALS

### *Study area*

The study was conducted from April 26/8/06 – May 04 -09/06 EC in Gotu Kebele, Wondogenet Woreda of Oromia regional state which is located 270 km far from Addis Ababa,10 km from Shashemene and 22km from Hawassa. Gotu Kebele is one of the 11 Kebeles of Wondogenet Woreda with a total population 4060 from which male accounts 2050.

### *Study design*

A community based cross sectional study was conducted. Population was includes mothers of under 5 children in Wondogenet Woreda. Study population was includes mothers of under 5 children in Gotu Kebele, Wondogenet Woreda.

### *Criteria of the study*

Mothers having children less than 5 years of age was studied irrespective of social classes, ethnicity etc. While mother who do not give care for (attend) there child were excluded.

### *Sample size*

The sample size was calculated using single the formula  $ni = \frac{p(1-p)z^2}{d^2}$  (24) with the following assumptions: 95% confidence level, margin of error (d) of 5%, proportion or prevalence rate of hand washing practice (p) 50% and by using the correction formula  $nf = \frac{ni}{1+(ni-1)/N}$  (24) where ni = 384 ; the minimum sample size calculated after adding 10% of nf for compensating non-responses rate was 264 .

### *Sampling technique*

From 9 rural kebeles of the Woreda one kebele was selected. Then all the houses of mothers of under 5 children who were fulfilling all the inclusion criteria were registered. (1-665), from this our sample was 264 to get this number of mothers, systematic sampling was applied.

### *Data collection technique*

The data collection was conducted by face to face interview using structured and semi-structure interview questionnaire in addition to observation. Data collection was carried out from April 12, 2014 - May 4, 2014.

### *Data analysis and management*

All the collected information was examined on the bases of the research objectives. Analysis was done manually by using scientific calculator after checking for completeness and coding. Results were presented with appropriate tables, bar graph & pie chart.

### *Data quality control*

In order to make the study qualified .Before beginning the actual study the questionnaire and the whole method was pre-tasted on some professionals to find for any error, if found to be corrected. Each and every questions of the questionnaire was discussed by the

principal investigators. The data was collected by principal investigators only. The collected data was cross checked on daily basis by the principal investigators.

#### Ethical consideration

The approval letter from college was taken for the conduction of the research on our topic. Purpose and the objective of the research were explained before to the respondents. Verbal consent of the respondent was taken prior to data collection. Privacy and confidentiality was maintained.

#### Results

##### Socio demographic

A total of 264 mothers with at least one under-five children were planned to participate in the study, out of which 251 were enrolled making a response rate of 95 %. Seventy eight of the mothers (31%) were below 24 years of age while the majority 122 (48.6%) were in the age range of (25-29) years, only fifty one of mothers (20.35) were above the age of 30. The mean age of the respondents was 26.48 years ( $\pm 4.51$  SD). The majority of the respondents were Protestant 133 (53%), Muslim 98 (39%) by religion. One hundred twenty one (48.2%) of mothers had no formal education and 234 (93.2%) were housewives. The mean household size of the study population was 6.9 ( $\pm 2.26$  SD) persons. There was only one under-five child in 219 (87.2 %) households, and the remaining 32 (12.7%) households had two or more under-five children.

**Table 1.** The socio demographic characteristics of mothers of under five children, Wendogenet Woreda, Gotu kebele , 2014.

S.N	Variable	Response	Frequency	Percentage
<b>1</b>	Age of mother	15-19	6	2.4
		20-24	72	28.7
		25-29	122	48.6
		30-34	41	16.3
		35-39	8	3.2
		40-44	2	0.8
		45-49	0	0
<b>2</b>	Number of children in HH	One	219	87.2
		Two or more	32	12.3
<b>3</b>	Family size	Less than 3	0	0
		3-5	130	51.8
		More than 5	121	48.2
<b>4</b>	Religion	Protestant	133	53
		Muslim	98	39
		Orthodox	14	5.6
		Other	6	2.4
<b>5</b>	Occupational status of mothers	Housewife	234	93.2
		Merchant	13	5.2
		Other	4	1.6
<b>6</b>	Occupation of husband	Farming	221	88
		Merchant	14	5.6
		Government work	16	6.4
<b>7</b>	Monthly income	$\leq 500$	54	21.5
		501-1000	66	26.3
		$\geq 1000$	131	52.2
<b>8</b>	Educational status of mothers	Illiterate	121	48.2
		Read and write only	98	39
		Primary level	23	9.16
		Secondary level	7	2.8
		Diploma and above	2	0.8

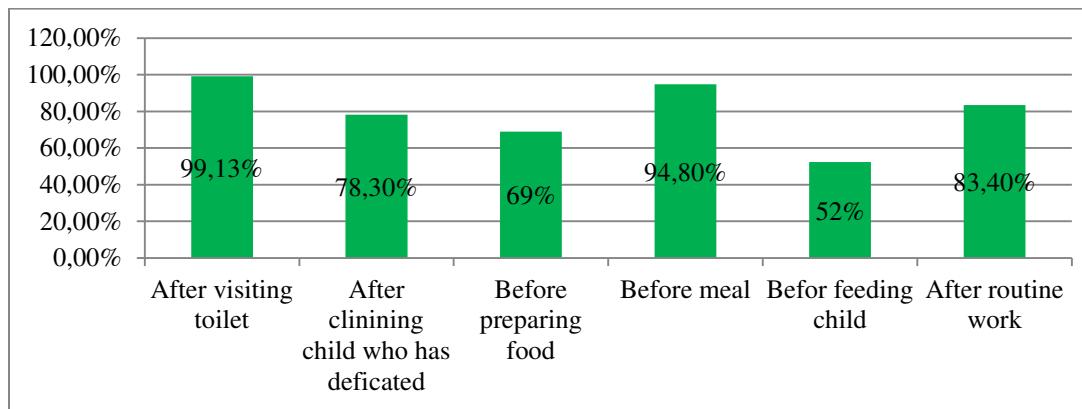
Spring is the main source of water 102 (40.6%) and the remaining 149 (59.4%) use both spring and pipe water as a source. Regarding the amount of water fetched in each households per individual per day 142 (56.6%) of the households got less than 10 L water per individual per day. In one hundred households (39.8%) 15 L water was fetched per individual per day. Only in 9 (3.6%) of households more than 20 L water was fetched per individual per day. Majority of these households 218 (86.9%) got water in minutes less than 15; whereas 33 (13.1%) spent 15-30 minutes to get water.

*Knowledge of hand washing:* Majority of mothers of under five children 228 (90.8%) have knowledge about communicable disease. Disease most frequently mentioned by mothers who participated in the study were; HIV, Diarrheal, Malaria and TB. The knowledge

of respondents about hand washing as a means to prevent diarrhea and intestinal worm was 100% and 97.6% respectively while skin and eye infection and ARI was (66.6% and 6.4% respectively.

#### Critical moments for hand washing

From 249 (99.2%) mothers who have knowledge about the importance of hand washing 229 (92%) knows the critical moments when hand washing is crucial and from these 205 (89.6%) mothers answered as if they wash their hands. The critical times and frequency of mothers response is shown in the graph below.



**Fig 1.** Percentage of responses of mothers of under five children to the knowledge about the critical times of hand washing, Wendogenet Woreda, Gotu kebele, 2014.

#### Attitude

From the questions asked to measure an attitude of mothers of under five children about washing hands with soap 132(52.6%) have a positive attitude which supports hand washing with soap with a mean value 37.82 ( $\pm 1.15$  SD) and the remaining 119 (47.4 %) have negative attitude which discourages hand washing with soap. Among the question asked to measure attitude mothers of under five children towards the way of preventing children from getting diarrhea and ARI 148 (59%) have a positive attitude with a mean of 18.95 SD ( $\pm 3.13$ ) while the remaining 103 (41 %) have a negative attitude towards the ways of preventing babies from diarrhea and ARI.

#### Practice

From a total of 251 mothers who participated in this study 153(61%) of mothers were being feed breast their child. From these mothers 57 (37.3%) of mothers feed breast their child at any time without taking any sanitation practice. 83 (54.2%) of mothers wash their hand with water before feeding breast their child. But only 13(8.5%) wash their hand with water and soap before breast feeding their child.

**Table 2.** Practice of mothers during feeding their child supplementary foods, Wendogenet Woreda, Gotu kebele, 2014. (N=237)

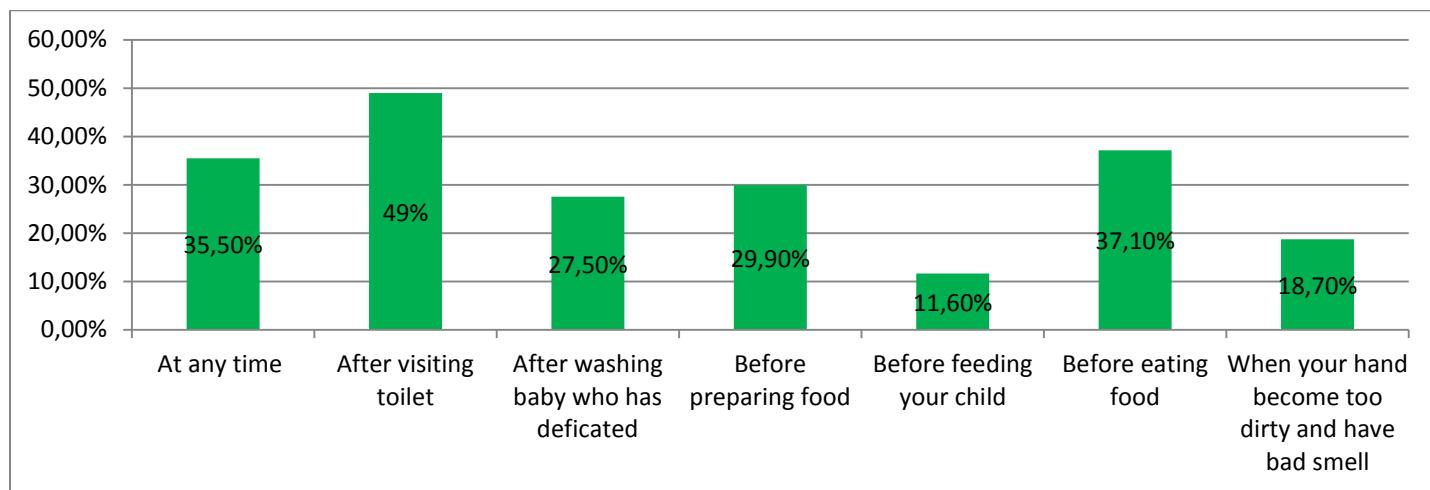
Variable	Corresponding response	Frequency	%
<b>Mothers practice during feeding the child supplementary food.</b>	My hand	98	41.4
	Cup and spoon	109	46
	The child feed by himself.	52	22
	Bottle food	31	13.1

One hundred twenty three (45.2%) of under five children defecate haphazardly anywhere without the follow up of their mothers. Sixty three (22.3%) use popo to store their fecal matter and dispose it properly. Only 35 (12.4%) use latrine and the remaining 57(20.1%) were use old closes as their children could not regulate their feces. Overall result is presented in the graph below.

From a total of 229 respondents who respond as if they have a knowledge of hand washing 205 (89.6%) of them wash their hands. From those 149(72%) wash hand with water only. 31(15% ) wash their hand sometimes with soap and the other times with ash or mud. 21(10.4%) use soap and water only while 6(2.9%) use ash/mud and water.

One hundred twenty three (49%) of our respondents stated to wash their hands with soap and water after visiting toilet where only 29 (11.6%) stated before feeding a child. The majorities 176(70.09%) of respondents does not have practice of washing their hands with water and soap after the critical times, this implies only 75 (29.91%) of respondents wash their hands with water and soap after the

critical times. From the most frequently mentioned reason by our respondents for not washing their hands with water and soap were 162(92%) stated lack of social norm, 48(27%) stated drying of the skin and the other 19(10.7%) stated cost of the soap.



**Fig 2.** The practice hand washing with soap and water at the critical time among mothers of under five children in Wendogenet Woreda, Gotu kebele, 2014.

#### Factor that affecting hand washing practice

**Table 3:** Bivariate analysis of hand washing practice of mothers of under five children at critical time, Wendogenet Woreda, Gotu kebele, 2014.

Variables	Hand washing practice (N=251)		Crude OR(95% CI)
	Yes	N	
<b>Knowledge</b>			
Yes	73	156	4.67(1.06, 20.55)
<b>Attitude</b>			
Yes	52	80	2.71(1.52, 4.81)
<b>Family size</b>			
less than five	48	82	2.03(1.16, 3.55)
<b>Educational level</b>			
Illiterate	26	95	0.45(0.25, 0.79)
<b>Occupation of mothers</b>			
Housewife	66	168	0.34(0.12, 0.94)
<b>Monthly income</b>			
Less than 1000 and 1000	30	90	0.63 (0.36, 1.10)

<b>More than 1000</b>	45	86	1.0
<b>Source of water</b>			
<b>Pipe and spring</b>	57	92	2.89(1.57, 5.30)
<b>Spring only</b>	18	84	1.0
<b>Amount of water /individual/day</b>			
<b>More than 10 L</b>	42	72	1.83(1.06, 3.17)
<b>Less than 10 L</b>	33	104	1.0
<b>Time spent to get water</b>			
<b>Less than 15 min</b>	63	155	0.71(0.33, 1.53)
<b>15-30 min</b>	<b>12</b>	<b>21</b>	<b>1.0</b>

Knowledge has association with hand washing practice at critical time. Mothers who have knowledge about hand washing have 4.67 times higher hand washing practice at critical time than mothers who have no knowledge about hand washing. OR: 4.67(1.06, 20.55). Attitude has association with hand washing practice at critical time. Mothers who have attitude about hand washing have 2.71 times higher hand washing practice at critical time than mothers who have no attitude about hand washing. OR: 2.71(1.52, 4.81). Educational status has association with hand washing practice at critical time. Mothers who are illiterate have 0.45 times lower hand washing practice at critical time than mothers who are literate. OR: 0.45(0.25, 0.79). Occupational status has association with hand washing practice at critical time. Mothers who are Housewife have 0.34 times lower hand washing practice at critical time than mothers who are not housewife. OR: 0.34(0.12, 0.94). Source of water has association with hand washing practice at critical time. Mothers who used pipe and spring water have 2.89 times higher hand washing practice at critical time than mothers who used spring water only .OR : 2.89(1.57, 5.30). Amount of water /individual/day has association with hand washing practice at critical time. Mothers who used more than 10 L/individual/day water have 1.83 times higher hand washing practice at critical time than mothers who used less than 10 L/individual/day. OR: 1.83(1.06, 3.17). As showed in the bivariate analysis table families' monthly income and the time needed to get water does not have significant association with mothers' hand washing practice with soap at the critical times.

## Discussion

This study sought to assess the knowledge, attitudes and practices of hand washing among mothers of under five children in Wendogenet Woreda, Gotu Kebele. As shown in the finding of this study majority of mothers of under five children 228 (90.8%) have knowledge about communicable disease this result is somewhat comparable with the finding of the study conducted among mothers of under five children in rural costal south India where 83.41% of mothers stated hand washing was important for prevention of communicable disease[9].This difference may be due to the result health extension workers who are working in the promotion of hand washing and media.

Form those mother who have knowledge about the importance of hand washing only 16(6.4%) stated hand washing could prevent ARI, this result is too low when compared with the same study done in rural costal south India which is 24.92%[9]. This may be the educational status of mothers participated in our study i.e. 48.2% are illiterate. In contrast to this all of our respondents stated diarrhea could be prevented by hand washing were 38.88% in the above study. This may also be the result of extension workers activity and media which are working in promoting hand washing. From a total of 229(92%) our respondents who have knowledge about the critical times of hand washing (99%) thought hand washing is crucial after visiting a toilet, 94.8% before meal, 69.3% before preparing food, 52.4% before feeding a child. These result shows our respondents have a better knowledge about the critical moments of hand washing when we compare it with the finding of a research done on the same topic in rural costal south India (56.9%), (80.08%), (69.3%), and (52.4%) respectively[9]. From 153(61%) mothers who were breast feeding their child only 13(8.5%) wash their hands with soap and water. This practice is too low when we compare it with the practice of mothers of fewer than five children (47.7%) in Ahato Ano south district of Ghana [10]. This may be due to the lack social norm of hand washing in our study area.

From 176(70.09%) mothers who were not using soap during washing their hands 10.7% raise cost as a reason. This is somewhat different from the finding of a research conducted in Kuramo community, Lagos, Nigeria i.e. (19.3%) [11]. This may be due to the practice of using soap bought all for laundry. The practice of hand washing with soap after the critical times like after visiting toilet, after cleaning baby, before preparing food and before feeding a child is 49%, 27.5%, 29.9 and 11.6 respectively. This finding is similarly be documented in a study carried out in Edo state, Nigeria where 52.5%, 53.9%, 35.3%, and 38.2% of mothers of under five children wash their hands with soap and water after the critical times mentioned above respectively[12]. This also may be due to lack of social norm in our respondents.

### Conclusion

The study was focused on the knowledge, attitude and practice of hand washing among mothers of under five children in rural kebele (Gotu) of Wondogenet Goreda. From those mothers who do not have the practice of hand washing with soap 92% lack the social norm which initiates them to wash their hands with soap and water. And also 48.2% of our respondents were illiterate. These prevailing situations leads 176(70.09%) of our respondents to not practice of hand washing with soap while majorities 229(92%) have knowledge about hand washing and 132 (52.6%) have positive attitude to hand washing with soap.

### Recommendation

- As our study indicate the practice of the respondents were low so in order to increase the practice of the mothers about hand washing with soap much attention should be given by all responsible bodies. The study recommends the following:
- The health extension workers to continue working on awareness creation activities until the level of practice of hand washing come with their knowledge.
- The health extension workers should make each house hold to have hand washing facility with soap at the convenient place.
- The NGOs which are working on WASH to take part in hand washing practice promotional activities among rural mothers.
- The NGOs and health bureau should work on changing the social norm of hand washing practice among rural mothers.

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